

APPLICANTS: Stashenko and Li  
FILING DATE: February 20, 2004  
FOR: OSTEOCLAST PROTON PUMP SUBUNIT

***In the claims:***

1. (Currently Amended) An isolated gene encoding a polypeptide which is a human 116-kDa osteoclast proton pump subunit.
2. (Currently Amended) ~~A~~ The gene according to Claim 1, wherein the gene comprises a nucleotide sequence consisting of SEQ ID NO: 1.
3. (Currently Amended) An isolated DNA encoding a polypeptide which is an osteoclast 116-kDa proton pump subunit and comprising the nucleotide sequence of SEQ ID NO: 1 or its complementary nucleotide sequence.
4. (Currently Amended) An isolated DNA encoding a polypeptide which is a human osteoclast proton pump subunit and which comprises the amino acid sequence of SEQ ID NO: 3.
5. (Currently Amended) An isolated DNA encoding a polypeptide which is an osteoclast proton pump subunit, comprising a nucleotide sequence selected from the group consisting of:
  - a) SEQ ID NO: 1 or its complementary nucleotide sequence; and
  - b) nucleotide sequences which hybridize under conditions of medium stringency to the nucleotide sequences of (a).
- 6.-16. (Cancelled)

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17. (New) An isolated polynucleotide comprising a sequence encoding a human 116-kDa osteoclast proton pump subunit polypeptide or a fragment thereof.
18. (New) The polynucleotide of claim 17, wherein said polypeptide comprises the amino acid sequence of SEQ ID NO:2.
19. (New) The polynucleotide of claim 17, wherein said fragment comprises the amino acid sequence of SEQ ID NO:4.
20. (New) The polynucleotide of claim 17, wherein said fragment comprises the amino acid sequence of SEQ ID NO:5.
21. (New) The polynucleotide of claim 17, wherein said fragment comprises the amino acid sequence of SEQ ID NO:6.
22. (New) The polynucleotide of claim 17, wherein said fragment comprises the amino acid sequence of SEQ ID NO:7.
23. (New) The polynucleotide of claim 17, wherein said fragment comprises the amino acid sequence of SEQ ID NO:8.
24. (New) The polynucleotide of claim 17, wherein said fragment comprises the amino acid sequence of SEQ ID NO:9.
25. (New) The polynucleotide of claim 17, wherein said polynucleotide comprises the sequence of SEQ ID NO:1 or the complement thereof.

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26. (New) An isolated polynucleotide comprising a sequence which hybridizes at high stringency to the polynucleotide of claim 17.
27. (New) An isolated polynucleotide comprising a sequence which hybridizes at medium stringency to the polynucleotide of claim 17.
28. (New) An isolated polynucleotide comprising a sequence which hybridizes at high stringency to the polynucleotide of claim 25.
29. (New) An isolated polynucleotide comprising a sequence which hybridizes at medium stringency to the polynucleotide of claim 25.
30. (New) The polynucleotide of claim 17, wherein said polynucleotide is operably linked to a regulatory sequence.
31. (New) The polynucleotide of claim 25, wherein said polynucleotide is operably linked to a regulatory sequence.
32. (New) A cell comprising the polynucleotide of claim 17.
33. (New) A cell comprising the polynucleotide of claim 25.